

## CLAIMS

1. A nickel alloy sputtering target containing 0.5 to 10at% of tantalum in nickel.
- 5 2. A nickel alloy sputtering target containing 1 to 5at% of tantalum in nickel.
3. A nickel alloy sputtering target according to claim 1 or claim 2, wherein inevitable impurities excluding gas components are 100wtppm or less.
4. A nickel alloy sputtering target according to claim 1 or claim 2, wherein  
10 inevitable impurities excluding gas components are 10wtppm or less.
5. A nickel alloy sputtering target according to any one of claims 1 to 4, wherein oxygen is 50wtppm or less, and nitrogen, hydrogen and carbon are respectively 10wtppm or less.
6. A nickel alloy sputtering target according to any one of claims 1 to 5,  
15 wherein oxygen is 10wtppm or less.
7. A nickel alloy sputtering target according to any one of claims 1 to 6, wherein the initial magnetic permeability of in-plane direction of the target is 50 or more.
8. A nickel alloy sputtering target according to any one of claims 1 to 7,  
20 wherein the maximum magnetic permeability on the initial magnetization curve of the in-plane direction of the target is 100 or more.
9. A nickel alloy sputtering target according to any one of claims 1 to 8, wherein the average crystal grain size of the target is 80  $\mu\text{m}$  or less.
10. A manufacturing method of a nickel alloy sputtering target according to  
25 any one of claims 1 to 9, wherein final heat treatment is performed at a recrystallization temperature of up to 950°C.